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A Brief Summary of Economic Conditions

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NINETEEN FORTY-ONE begins with the average of prices of farm products about the same as at the outset of 1940, but with better prospects for some advance as consumer incomes increase. Greatest stimulus is the increased industrial activity as production for national defense expands. Costs of farm production also are expected to go up. Farm income will be higher this year than last, but higher costs will offset part of the gain. Currently, the ratio of prices received by farmers to prices paid in production is 17 percent below the pre-World War base of 100. * * * Year-end reports indicated that total supplies of food are adequate for civilian and military needs during the coming year. Hogs are practically the only major commodity which will be in smaller supply in 1941 than in 1940. Large supplies of wheat, potatoes, citrus fruits, dried fruits, canned foods, and truck crops are in existence or in prospect. A near-record supply of feed for livestock is on the farms and in storage, but the production of meats may be smaller in 1941 than in 1940. * * * Acreage goals under Government programs are practically the same this year as last, with guarantees of conservation payments to participating producers.

COMMODITY REVIEWS

DOMESTIC DEMAND: Up

DOMESTIC demand for farm products has continued to improve. Industrial activity reached successive new peaks each month in the final quarter of 1940 and consumer income rose to the highest point since 1930.

The effects of these gains in industrial activity and in the income of domestic consumers are reflected in substantial improvement in the domestic consumer demand for several important farm products: Hog marketings in late 1940 were of record proportions but the decline in prices towards the year's end was considerably less than the average seasonal amount and prices ended 1940 higher than a year earlier. Dairy product marketings and prices toward the end of 1940 were substantially higher than during the similar period of 1939. Egg marketings and prices also have averaged somewhat higher in recent months than a year earlier.

With several important industries operating at or near capacity rates, a slowing down in the advance in general business shortly, or even a temporary decline, would come as no surprise. However, preparations for the production of a greatly increased quantity of defense equipment for ourselves and for Great Britain and the large backlog of orders which have already been placed, practically assure us against any relapse in business activity sufficient to result in any weakening in the domestic consumer demand for farm products. Moreover, as new industrial facilities become available later this year, output and pay rolls are expected to rise further. This would result in a still further expansion in consumer demand for farm products.

P. H. BOLLINGER.

PRODUCTION: Increase

A near-record volume of crops was produced in 1940. The acreage harvested was only slightly larger than in 1939, but yields per acre averaged the highest on record. Production of 53 crops combined was 107.9 percent of the 1923-32 pre-drought average, compared with 103.9 percent in 1939, with 105.5 percent in 1938, and 112.6 percent in 1937. (Production in 1937 was the largest on record. Smallest on record for the last 22 years was in 1934—71.6 percent of the pre-drought average.)

The 1940 harvested acreage of 46 crops combined was 334 million acres, compared with 326 million in 1939, and with 340 million acres average for the 10 preceding years. Principal crops produced in smaller volume than in 1939 included corn, tobacco, soybeans, and apples; in larger volume—wheat, oats, peanuts, potatoes, and cabbage. New high records of yield per acre were set by tobacco, potatoes, peanuts, and sugar beets. Cotton averaged more than half a bale to the acre.

CROP YIELDS: Record

The good crop yields in recent years are attributed to favorable weather conditions, improved farming practices which have tended to increase soil fertility, and the better cultivation of crops. Better varieties of small grains, soybeans, and sugarcane are being used. The new flax is giving phenomenal yields in California—21 bushels per acre in 1940. The yield of rice has almost doubled in 40 years. A larger proportion of potatoes and fruits is being grown in areas giving the best yields per acre, and these crops are receiving better care.

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PRICES: Up

Higher prices of dairy products, fruits and poultry products raised the general farm price index to 101 in December. This compares with 97 in November, and with 96 in December a year ago.

Prices of all commodities combined are slightly higher than in the few weeks following the outbreak of the European War, but the components of the index show wide differences. December indexes for dairy products, chickens and eggs, fruits, and cotton and cottonseed were higher than in September 1939; indexes for grains, truck crops, and meat animals were lower.

Index of prices paid by farmers for commodities used in production was unchanged in December, and the ratio of prices received to prices paid was 83 percent of the pre-World War base of 100. The index of prices received by farmers would have to go up to 122 while prices paid remained unchanged,

to produce a ratio equal to the pre-World War base. It is unlikely that such a ratio will be reached this year.

Index Numbers of Prices Received and Paid by Farmers

[1910-14=100]

Year and month	Prices received	Prices paid	Buying power of farm products ¹
1939			
June.....	89	120	74
July.....	89	120	74
August.....	88	119	74
September.....	98	122	80
October.....	97	122	80
November.....	97	122	80
December.....	96	122	79
1940			
January.....	99	122	81
February.....	101	122	83
March.....	97	123	79
April.....	98	123	80
May.....	98	123	80
June.....	95	123	77
July.....	95	122	78
August.....	96	122	79
September.....	97	122	80
October.....	99	122	81
November.....	99	122	81
December.....	101	122	83

¹ Ratio of prices received to prices paid.

Prices of Farm Products

Estimates of average prices received by farmers at local farm markets based on reports to the Agricultural Marketing Service. Average of reports covering the United States weighted according to relative importance of district and States.

Product	5-year average, August 1909-July 1914	December 1909-13	December 1939	November 1940	December 1940	Parity price, December 1940
Cotton, lb.....	12.4	12.2	9.71	9.38	9.33	15.87
Corn, bu.....	64.2	57.7	50.3	56.9	54.5	82.2
Wheat, bu.....	88.4	86.7	82.4	72.5	71.5	113.2
Hay, ton.....	11.87	11.99	7.71	7.25	7.53	15.19
Potatoes, bu.....	69.7	62.3	70.8	52.4	54.9	186.5
Oats, bu.....	39.9	38.3	34.7	31.7	32.3	51.1
Soybeans, bu ¹	(²)	(²)	.97	.84	.81	1.73
Peanuts, lb.....	4.8	4.6	3.43	3.24	3.22	6.1
Rice, lb.....	81.3	(²)	72.3	72.2	76.3	104.1
Tobacco:						
Flue cured, Types 11-14, lb.....	22.9	(²)	12.7	14.7	12.1	22.4
Burley, Type 31, lb.....	22.2	(²)	15.4	-----	17.3	21.8
Apples, bu.....	.96	.91	.68	.75	.86	1.23
Beef cattle, cwt.....	5.21	5.03	6.85	7.68	7.56	6.67
Hogs, cwt.....	7.22	6.73	5.03	5.62	5.59	9.24
Chickens, lb.....	11.4	10.6	11.7	13.1	13.0	14.6
Eggs, doz.....	21.5	29.9	20.5	26.2	26.8	87.0
Butterfat, lb.....	26.3	29.9	28.5	30.9	34.8	86.8
Wool, lb.....	18.3	18.6	27.5	31.5	31.2	23.4
Veal calves, cwt.....	6.75	6.74	8.41	9.06	9.01	8.64
Lambs, cwt.....	5.87	5.52	7.38	7.78	7.88	7.51
Horses, each.....	136.60	132.10	77.10	69.60	69.10	174.80

¹ Post-war base.

² Soybeans for seed.

³ Prices not available.

⁴ Adjusted for seasonality.

INCOME: Increase

Cash income from farm marketings and Government payments totaled 943 million dollars in November, compared with 1,126 million in October, and with 884 million dollars in November 1939. Income from both crops and livestock and livestock products was larger in November 1940 than in November 1939, and Government payments were 3 million dollars larger.

From January to November 1940, cash income from marketings and Government payments totaled 8,258 million dollars, compared with 7,717 million in the like period of 1939. Income from all the principal groups of farm products except tobacco was larger in the first 11 months of 1940 as compared with 1939, largest increases being recorded for grains, cotton, meat animals and dairy products.

Income in December was probably larger than in December 1939, principally on account of heavy marketings of livestock and livestock products. Heavy marketing of hogs during the last quarter of 1940 was an important factor raising farm income during this period above the corresponding period of 1939.

Total income from all commodities for the full year 1940 probably totaled 9,050 million to 9,075 million dollars. This compares with 8,540 million in 1939, with 8,072 million in 1938, and with 9,111 million in 1937.

Income for 11 months in 1940, with comparisons, is shown in the following table:

Month and year	Income from marketings	Income from Government payments	Total
	Million dollars	Million dollars	Million dollars
November:			
1940.....	864	79	943
1939.....	808	76	884
1938.....	755	48	803
1937.....	880	3	883
January-November:			
1940.....	7,562	696	8,258
1939.....	7,001	716	7,717
1938.....	6,960	443	7,403
1937.....	8,016	359	8,375

COTTON: Record

The cotton mills of the country have been spinning at an unprecedented rate. Consumption since the beginning of the season last August has been the largest on record, and in December there were large orders to be filled in subsequent weeks. It now looks as though cotton mill consumption this year will total not less than 8.5 million bales—possibly more.

This increase in domestic consumption helps, but of course does not go all the way in offsetting the loss of exports. Even at this rate, and with exports no larger than 1.5 million bales in coming years, the total world consumption of United States cotton would be only 10.0 million bales a year. Production in 1940 was 12.7 million bales, in 1939 it was 11.8 million, and the average for the 10 years 1929-38 was 13.5 million bales.

Domestic prices of cotton have been averaging higher this season than last, supported by increased consumption and by Government loans to growers. Approximately 2.7 million bales of the 1940 crop are under Government loan. Adding quantities previously held, Commodity Credit Corporation stocks on August 1 next may total about 12.0 million bales.

WHEAT: Supply

Wheat crop estimates were increased by 24 million bushels last month, raising the total 1940-41 supply to 1.1 billion bushels. The quantity available for export or carryover is 415 million bushels, after allowance for domestic disappearance. Carryover on July 1 next may exceed 390 million bushels—the largest on Government record.

A 1941 winter wheat crop of 633 million bushels—the largest since 1938—was indicated by the December crop report. A crop of this size, coupled with an average spring wheat crop and

existing surpluses, would provide a supply of about 1.2 billion bushels for 1941-42. The condition of 1941 winter wheat was reported the best since the crop of 1931.

Domestic prices of wheat continue to be supported by Government loans to growers. Prices in December were 23 to 27 cents above export price levels.

FEED GRAINS: Supply

Year-end estimates put the supply of 4 feed grains—corn, oats, barley, and grain sorghums—at 115.4 million tons for 1940-41, compared with 110.6 million tons for 1939-40. Deducting corn expected to be under Government seal by the end of the season, the supply is about 99 million tons, compared with 97 million tons in 1939-40, and 101 million tons average during the pre-drought years 1928-32. The supply per animal is about 5 percent larger this year than last.

Supply of wheat millfeeds may be about the same this season as last. The supply of soybean cake and meal, cottonseed cake and meal, and linseed cake and meal is larger this season. Loss of export markets for high-protein feeds leaves practically all of these feeds for domestic consumption. Prices of high-protein feeds have been lower this winter than last. Corn has been higher, oats and barley lower. On a digestible-nutrients basis the price of No. 3 yellow corn in December was lower than prices of oats and all by-product feeds.

HOGS: Higher

Reduced marketings, increased consumer demand, and higher prices form the pattern of the hog situation in coming months. The smaller marketings will be the result of a 10 percent smaller pig crop in 1940 compared with 1939; the increased demand is being stimulated by increased industrial activity for national defense.

Such a combination spells higher prices.

The 1940 spring pig crop was 9 percent smaller than the 1939 spring crop. Marketings of these pigs were unusually heavy during the last 3 months, with the result that the seasonal reduction in marketings later this winter will be more pronounced than usual. The 1940 fall pig crop was 13 percent smaller than the 1939 fall crop, and this will be reflected in smaller market supplies late next spring and summer than a year earlier.

The ratio of hog prices to corn prices has been unfavorable to hog production since late 1939. Hogs sold as low as \$5 per 100 pounds in the summer of 1940. Prices were slightly higher last fall, but not enough to induce farmers to increase hog breeding for spring pigs. A 1941 spring pig crop about 14 percent smaller than the 1940 spring crop was indicated by the Government pig crop report issued last month.

At current prices of corn and other feed, a price of \$7 to \$8 per 100 pounds of hogs would be required to stimulate the production of hogs. Prices of hogs may exceed this figure during the next few months. A continuing favorable ratio during the remainder of 1941 forecasts an increase in pig production next fall, and in the spring of 1942.

CATTLE: On Feed

December reports indicated that more cattle are on feed this winter than last: More in the Western States, and in Texas and Oklahoma; more in the Corn Belt States west of the Mississippi River; fewer in the Corn Belt States east of the Mississippi.

Total in the Corn Belt as a whole is about the same as in the winter of 1939-40. Total in the 11 Western States is probably the largest on record. Fewer cattle are being fed in the 4 Rocky Mountain States, largely because of a decrease of 10 to 15 percent in Colorado. Most of the increase in the 7 other Western States is in California and Arizona.

Feeder cattle cost farmers a little more money last fall compared with 1939, but domestic demand for meats continues to improve, and the general level of cattle prices is expected to average materially higher in 1941 than in 1940. Marketings of fed cattle may be no larger in the first half of 1941 than in the like period of 1940, but in the last half of the year supplies may be larger than in the last half of 1940.

Supply and demand conditions indicate that the seasonal decline in prices of the better grades of slaughter cattle this winter and next spring may not be so great as usual, and that the seasonal advance in late summer and fall of 1941 may be less pronounced than the rise in prices in the like period of 1940.

LAMBS: Increase

More lambs are being fed this season than last, practically all of the increase taking place in the Western Corn Belt States. The number of lambs on feed in the Eastern Corn Belt is about the same as during the 1939-40 feeding season. Slightly fewer lambs are being fed in the Western and all other States combined outside the Corn Belt, as compared with 1939-40. Most of the reduction in the West is in Colorado.

The total number fed in the States west of the Continental Divide is a little larger this season than last, with increases in Utah, Nevada, and Washington totaling more than reductions in Oregon and California. A material increase in lamb feeding in Texas is indicated. During the 4 months July through October, more than a million head of sheep and lambs were billed from Texas to points other than stockyards in other States. Many of the lambs on Kansas wheat pastures are of Texas origin.

Slaughter supplies of lambs during the 1940-41 fed-lamb marketing season—December-April—will be a little larger than in the same period last year. But the increase will not be large. Prices of lambs during the next few months will be supported by

the stronger consumer demand for meats and higher prices for wool as compared with a year earlier.

WOOL: Near-Record

Wool mill consumption continues at high levels as fleece is made into cloth for military needs. Large quantities of wool are coming into the United States to supplement domestic stocks in meeting the heavy requirements for woolen goods. Prices of wool are higher than at this time last year. Prices in the next few months will be influenced greatly by the prices paid for imported wools.

Production of wool in the 5 principal producing countries of the Southern Hemisphere in 1940-41 is estimated to be about 4 percent smaller than in 1939-40, but about 5 percent larger than the average for the 5 years 1934-38. Most of the apparel wool entering international trade is produced in these countries. The decline this year is chiefly in Australia, where almost half of the Southern Hemisphere clip is produced.

Complete figures are not available as to the carryover in Southern Hemisphere producing countries at the beginning of the 1940-41 season. The total was probably larger than in the preceding season.

FRUITS: Plentiful

Fresh, dried, and canned fruits are in plentiful supply this winter. Total production was smaller in 1940 compared with 1939, but since exports have shrunk, the supply available for domestic consumption is about the same this year as last. Total supply of apples is smaller, but December reports indicated that the production of oranges for 1940-41 marketing will be the largest on record, and of grapefruit a near-record.

The 1940 crop of pears was the second largest on record, but large quantities have been bought for relief distribution by the Government, and heavy tonnages have been purchased

by canners. Production of dried fruits was smaller than in 1939, but there is a large carry-over from preceding years.

Growing conditions in December indicated a production of 82 million boxes of oranges for this season, compared with 76 million boxes in 1939-40, and with 79 million in 1938-39. Production of grapefruit was indicated at 40 million boxes, compared with 35 million last year, and with 44 million in 1938-39.

(Strong winds in late December whipped much citrus fruit from trees in the Lower Rio Grande Valley. Much of it, however, has been salvaged.)

TRUCK CROPS: Increase

Supplies of early cabbage, carrots, celery, onions, and spinach will probably be larger in late winter and early spring this year than last. Reports in December indicated larger acreages of these crops this season, but of course weather conditions will be a big factor in the final outturn. Last year the early crops were damaged by the abnormally cold weather all over the South, and prices advanced sharply. Short of a similar development this season, market prices will be relatively low.

Year-end crop reports indicated that the combined acreage of important truck crops harvested in 1940 for marketing fresh and for processing (excluding strawberries and early Irish potatoes) was 5 percent larger than the 1939 acreage. A decrease of nearly 4 percent in acreage grown for the fresh market was more than offset by a 17 percent increase in acreage of vegetables for processing. But growing conditions were favorable on the whole. The total tonnage of crops produced for the fresh market was the largest on record, and the total for processing the second largest on record.

(Heavy rain and wind the last week of December damaged vegetables in the Lake Okeechobee section and on the Lower East Coast of Florida.)

POTATOES: Big Supply

Prices of potatoes usually rise at this time of year, but the advance has been smaller this winter than last since the supply of potatoes is much larger. Production in the 30 late potato producing States totaled 313 million bushels in 1940, compared with 289 million bushels in 1939, and with 296 million bushels average for the 10 years 1929-38. Largest increases were in the western surplus States. The late producing States provide most of the storage holdings for marketing during the winter and spring months.

Year-end estimates put the 1940 production of sweetpotatoes at 62 million bushels—the smallest in more than a decade. The 1939 crop totaled 73 million bushels. Prices have gone up on account of the smaller supply and better consumer demand this winter than last.

RICE: Higher Priced

Farm prices of rice improved from the seasonal low point last September, and in mid-December the average of 76.3 cents per bushel compared with 72.3 cents in December 1939. No shipments have been made to European countries this season.

The Agricultural Adjustment Administration announced on January 2 that marketing quotas on rice will not be proclaimed for the 1941-42 marketing season. As a result no referendum on rice marketing quotas will be necessary. (Under the terms of the Agricultural Adjustment Act of 1938, rice marketing quotas are proclaimed and voted upon by growers only when the total supply of rice for the marketing year beginning August 1 exceeds the normal supply by 10 percent.)

DAIRYING: Increase

Milk production has been setting new high records for this time of year. Production usually reaches a seasonal low volume in December, then builds up to an annual peak in June. Production for the full year 1941 may be

the largest on record, considering the large number of cows on farms, and the increasing consumer demand for dairy products. The relationship between prices of feeds and butterfat and milk is favorable for dairy producers.

Cows are being well fed this winter, and responding with a heavy flow of milk. As production increases in coming months, larger quantities will go into manufactured dairy products. Total production of these products will probably be larger in the first half of 1941 than in the like period of 1940. A seasonal decline in prices of dairy products is in prospect during this period, but it is expected that prices will average higher than in the first half of 1940.

Incomes of dairymen in 1941 may be the highest in a decade.

FATS, OILS: To Advance

Prices of most fats and oils except butter are considerably lower this winter than last, but an advance in prices this year is expected to result from an improvement in domestic demand and a reduction in production of lard and grease. Little help can be expected from sales for export since European continental markets are cut off by the British blockade.

Farm prices of domestic oilseeds also are lower this winter than last. Supplies of cottonseed, peanuts, and flaxseed for the current marketing season are 6 to 56 percent larger than in 1939-40. There is a near-record supply of flaxseed, and a record supply of peanuts. The supply of soybeans for domestic use is slightly smaller than in 1939-40.

New-crop flaxseed in South America was being harvested in December, but prospects for exports to the United States and continental Europe are unpromising. The Grain Board in Argentina has been authorized to buy flaxseed at a stated minimum price, with purchases presumably to be held for sale at some future time.

POULTRY: Prices Up

Outlook is for higher farm prices of chickens this winter than last, since the supply is smaller and consumer demand is better. This situation is expected to continue at least during the first half of 1941. Also helpful to prices of chickens during this period will be a decrease in supplies of pork.

Hatchery production of baby chicks was 5 percent larger in November 1940 than in the same month a year earlier, and an increase of 9 percent in chicks booked for December or later delivery as compared with the same time a year ago was reported. Most of the November chicks hatched were for winter broiler production.

Prices of turkeys also have responded to the smaller production in 1940 and the improved consumer demand for meats this winter. Storage demand may be better than had been indicated earlier in the season, since consumer demand will likely continue to be good throughout 1941.

EGGS: Higher

Prices of eggs have been higher this winter than last largely because of increased consumer demand. Production will increase sharply during the next few months, but the total will probably be smaller than in 1940 since there are fewer layers on farms. A stronger storage demand for eggs is in prospect this season than last.

A continuing higher level of farm prices of eggs during the first half of 1941 as compared with 1940 is indicated by supply and demand prospects. The feed-egg price ratio will probably be more favorable to producers this winter and next spring than last; this indicates that more chickens will be raised in 1941 than in 1940.

FRANK GEORGE.

ADJUSTMENTS TO MEET WAR IMPACTS

LOST export markets and increased consumer purchasing power at home are the factors of the war and defense program that farmers must fit into their plans for immediate and future adjustments. Export outlets have been greatly diminished by the war, and for some agricultural products are likely to remain small for some time to come. Cotton and tobacco in the South, wheat in the Great Plains and Pacific Northwest, lard in the Corn Belt, and fruits everywhere formerly produced for export—all present dark spots in our demand picture for farm products. Bright spots include those domestically consumed products such as dairy and poultry products, meats, wool, fruits, and vegetables that will be taken from the market in greater quantities as the defense program stimulates pay roll increases throughout the country.

Adjustments by farmers to meet these changes in demand are bound to be widespread, for all major commodities will be affected to some extent. However, the plans developed will have two things in their favor: (1) The pattern of changes will benefit farmers and the Nation because the shifts will be in the direction of a better national diet; (2) adjustments to meet war impacts will be directed toward long-time objectives essentially similar to those of our present farm program.

A shift from cotton and tobacco to milk, fruits, and vegetables in the South would make available a much better food income to the undernourished in that region. A shift from wheat to livestock on the Plains would probably not lower our cereal intake but add to our meat items and help conserve the soil. Shifts in the Corn Belt to lean meats, milk, and wool would also meet needs of our conservation work and our national food and fiber budget.

THE basic problem is really one of how many people must find their support in agriculture. If industrial "pick-up" would furnish enough employment to the people unemployed or underemployed on farms owing to lost exports, then no additional shifts to other products would be necessitated. A partial employment of these people would make possible a slackening of the intensity of farm production. Some of the poor land could be abandoned, less labor and materials could be used on the better lands, and

the efficiency of farm labor could be increased.

This type of solution would be the same as that of earlier periods in our national history. Land in New England was abandoned when the Erie Canal brought cheaper products from the West, but industrial development in nearby cities created jobs for those displaced from New England farms. In the present situation, so long as an adequate amount of nonfarm employment is not available, the manpower backed up on the farms presses toward

more rather than *less* intensive uses of land.

The pressure of manpower on the land is the heart of the adjustment problem. Can we suggest any measures for dealing with this situation? If nonfarm employment of part of the present farm population would be the best solution, how can that be brought about? Even temporary employment in defense industries would be better than the present situation for farmers in some areas of the South and the Great Plains. Still better would be the establishment of defense plants in rural areas to permit a combination of rural living and nonfarm work. Best of all would be a plan for eventual permanent industry in rural areas. In some areas the farm people need vocational training in industrial skills to take advantage of opportunities that may be offered by industrial employment. This is particularly true in the South, where large numbers of farm people may be unemployed because of the loss of export markets.

DIRECT assistance may be required temporarily to assist farmers who shift from cotton, tobacco, wheat, or corn. These shifts will mean increases in dairy and poultry products, meats and wool, fruits and vegetables, and timber products. The long-time advantage to farm and nonfarm families of these shifts will be evidenced in better living. However, the costs of the shifts and the increased competition with areas already specializing in the production of these products may present difficulties that should be eased by national agricultural programs.

Aid could be pointed toward increasing the efficiency of production and distribution by such methods as improving hay and pasture production for dairy producers, by measures that will increase the consumption of foods, or possibly by both. The combined result of a Food Stamp Program and increases in purchasing power may offset entirely the increases in produc-

tion of some products as a result of defense adjustments. In this connection we should remember that we are building a defense program, and agriculture should carry its proportionate share of that cost, but greater-than-proportional costs of adjustment should be borne by society as a whole.

In areas where land resources are too limited to support the present rural population the avenues of escape should be opened by education and employment recruited for the nonfarm work that may be developed through the defense program. Proper safeguards are needed against creating new slums as an aftermath of the present defense emergency.

SEVERAL years will be needed in which to carry out some of the suggested adjustments. Many of these adjustments will require new investments, and this problem must be approached carefully because of the danger of going into debt to produce for a market that might disappear after the defense emergency is over. However, some of the more fundamental adjustments, such as shifts away from cotton and wheat and into livestock and other domestically consumed products, appear to be of permanent rather than transient character.

More research information is required to facilitate some of these adjustments. Outstanding contributions to a more permanent and more stable agriculture in this country would be made by developing inexpensive hay and pasture grasses that will grow on the poor hill lands of the South and on the poorer lands of the Northeast. Feasible and economical methods for regrassing the more hazardous crop areas of the Great Plains are also badly needed.

The accompanying articles sketch in broad outline the problems that confront the major agricultural regions of the country and the adjustments that appear desirable to meet the changed social and economic conditions

now and in the years ahead. They have been developed from material gathered for a report on regional adjustments to meet war impacts, through the collaboration of sixty agricultural economists, sociologists and other specialists of the United

States Department of Agriculture. A detailed account of the farm management problems that will be faced by individual farmers cannot, of course, be given here.

SHERMAN E. JOHNSON.
ROBERT C. TETRO.

The South

APPROXIMATELY 16 million farm people live in the 13 Southern States from Virginia on the northeast to Texas on the southwest encompassing a land area of 552 million acres. About half the total farm population of the United States lives in this region, but these people receive less than one-third of the national farm income.

Adjustments facing cotton farmers are the outstanding problem in our farm economy. Sixty percent of southern farm families are dependent on cotton for their primary source of income. Cotton production in 1938 and 1939 averaged about 12 million bales, and the 1940 crop has been estimated at 12.7 million. As long as present war conditions and the defense program are controlling factors, domestic consumption plus exports of cotton probably will approximate only 10 million bales. Present levels of production will, therefore, mean a further accumulation of stocks.

Readjustments in the South would have been necessary under peace conditions. War curtailment of cotton outlets has only accentuated the problem. But it has made even more necessary an attempt to make permanent production adjustments to the shrinking world market for cotton.

THE problems of this region are widely different. For the cotton sharecropper on poor land in the hills of Mississippi who grows his cotton using half-row, one-mule equipment

they are far different than for the large-scale cotton farmer on the High Plains of Texas who uses 4-row tractor equipment and hired picking labor. Adjustments should therefore be considered in terms of subregions having at least a broad similarity of resources and production opportunities.

In the eastern hill areas, where there is a high ratio of people to land resources of relatively low productivity, cotton acreage has been materially reduced but production is not much less than it was in 1928-32 (table 1). It is difficult to outline for these areas further adjustments in cotton production that would provide satisfactory returns, without large outlays for cotton reduction payments. For example, the only alternatives to cotton that are apparent from recent farm-management studies in some of these areas are the raising of dairy replacements, and feeder calves, family subsistence enterprises, and possibly large farm forest units. Further reductions in cotton acreage seem highly improbable unless nonfarm employment for a part of the workers develops rapidly.

THE western cotton producing areas, especially the High Plains of Texas, are another subregion in which alternatives to cotton are limited. This region has already reduced its cotton enterprise considerably. Production of sorghums, cattle, and in some areas small grain, is the best alternative. Finishing of beef cattle with grain sorghums is practiced to some extent. The farms here

are large, averaging 275 acres per operating unit. Adoption of a beef cattle system is therefore possible on some of the larger farms. Producers in this area can probably make adjustments proportional to those needed in view of cotton prospects.

The Black Waxy Prairies of Texas have been shifting towards the production of small grain, dairying, and sheep. Studies in this area indicate that farms with one-fourth to three-eighths of the cropland in cotton return a larger income than farms with a larger proportion of the land in cotton. Perhaps a further reduced cotton acreage would have less severe repercussions here than in many other sections of the Cotton Belt, and it would be consistent with the marked reduction in cultivated land needed to maintain soil resources.

The Gulf Coastal Prairie of Texas may need to maintain a higher cotton acreage than the Black Waxy area because there seems to be some opportunity for developing new farms in this area.

THE Mississippi Delta is another area in which new farms are of particular importance. Farm incomes in the Delta have been the highest in the Cotton Belt. New farms are coming in each year, and

it seems that the best interests of all southern farmers will be aided by fostering these possibilities as an outlet for farm families from the older sections of the South. The fertile land produces feed in abundance which makes livestock production feasible on an intensive basis. Producers in some parts of the area might shift a part of their cotton acreage to feed for livestock, but considering the development of new farms, the cotton acreage of 1938 and 1939 probably should be maintained.

THERE are fairly good possibilities for changing the farming systems of the Coastal Plains areas, particularly in the eastern part. Income alternatives are hogs, dairying, beef cattle, vegetables, and timber. Some areas in this subregion, for example the Black Belt of Alabama, have already drastically reduced cotton production. With some assistance in shifting into other enterprises, these areas could probably adjust cotton acreage somewhat more than the national average.

In the Piedmont areas 90 percent of the farmers now follow a cotton-corn system, but a few farmers in the Piedmont of North and South Carolina have found it profitable to shift to fruit, beef cattle, and dairying. In addition, the industrial development in this area has provided some

Table 1.—Cotton Acreage and Production in Selected Periods by Subregions

Subregion	Cotton acreage			Cotton production (500 lb. gross weight bales)		
	Average 1928-32	Average 1933-39	Percentage that 1933-39 average is of 1928-32	Average 1928-32	Average 1933-39	Percentage that 1933-39 average is of 1928-32
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Percent</i>	<i>1,000 bales</i>	<i>1,000 bales</i>	<i>Percent</i>
Coastal Plain.....	6,485	4,486	69.2	2,404	2,242	93.3
Piedmont.....	3,473	2,410	69.4	1,572	1,258	80.0
Hill areas east of Mississippi.....	3,654	2,589	70.9	1,551	1,409	90.8
Hill areas west of Mississippi.....	7,469	4,997	66.9	2,368	1,762	74.4
Deltas of Mississippi, Arkansas, and Red Rivers.....	3,901	2,861	73.3	1,860	2,046	110.0
Gulf Coast and Black Waxy Prairies.....	6,726	4,603	68.4	2,167	1,538	71.0
Western cotton areas.....	8,040	5,133	63.8	2,200	1,565	71.1
Irrigated areas.....	773	780	100.0	534	795	148.9
Total all areas.....	40,521	27,859	68.8	14,656	12,615	86.1

off-farm employment. Thus, these areas may reduce their present cotton acreages more easily than the Piedmont of Georgia and Alabama, where the alternatives to cotton are subsistence, dairying, beef cattle, and woodland products. Seasonal distribution of rainfall makes the development of pastures difficult, and reduces the growth of adapted legumes. However, recent studies indicate that farmers can reduce their cotton acreage and still maintain incomes.

FARMERS in the hill lands of Arkansas, Louisiana, Oklahoma, and east Texas have been faced with low cotton yields, and have found it necessary to shift from cotton to dairying, small fruits, and vegetables. The farms are usually small, but the production of relatively intensive alternative enterprises, together with greater emphasis on conservation farm plans and production for family living needs, may permit a satisfactory level of living even with a minimum of cotton.

WHAT do some of these changes mean? What impediments retard these adjustments? The harvested cropland per capita averages about 5 acres in the eastern Cotton Belt States as compared with about 14 acres in the remainder of the United States. (See accompanying chart.) Thus shifts to other enterprises requiring more land and less labor run into a scarcity of cropland or lower incomes. But the total land resources are not quite so scarce comparatively as the present cropland. In most areas they average about one-fourth less per capita than in the Corn Belt.

In some areas better care of the woodlands will bring in some cash returns—not much, but perhaps \$50 per year, which is about 25 percent of the present income on small farms. Whether it will do this immediately depends on condition of present stands.

The acreage of food and feed crops

and of pasture should be increased about 30 percent above 1939.¹ Extension workers have long advocated "live at home programs in the South," but progress has been impeded by lack of knowledge concerning the growing and handling of new products, the fact that many of the people have neither the skill nor the equipment for canning and curing, the lack of storage facilities, and the discouragements caused by the prevailing credit and tenure systems.

The FSA, in its program of financing and supervising rehabilitation clients, has found one means of overcoming some of these difficulties. Cooperative canneries, meat-curing plants, and cold-storage lockers may be the answer in some situations. Technical assistance in production also is needed.

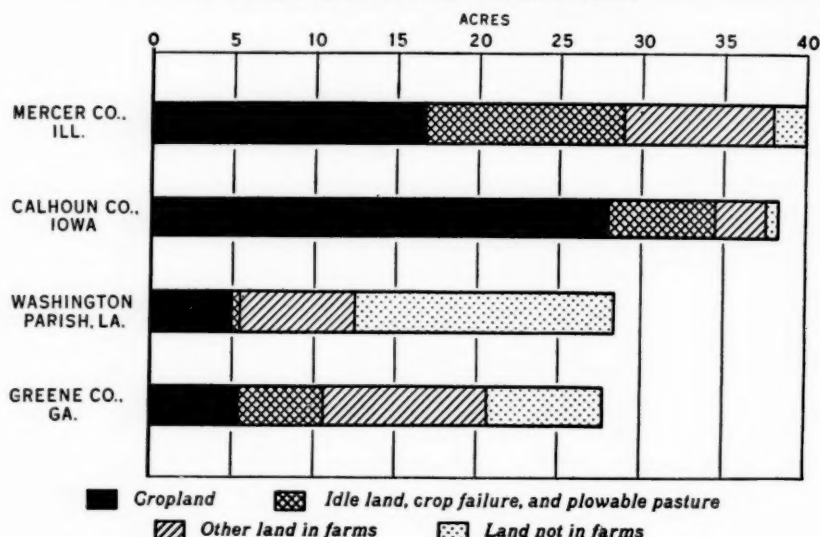
Although conditions in the old South are favorable for a relatively high degree of self-sufficiency, some cash is needed for satisfactory living. With a "pick-up" in southern industry more dairy products, more meat, and more fruit and vegetables can be sold to urban people in the South. Farmers located near army camps or close to new defense industries will benefit from these new markets.

THE proposed adjustments call for increased livestock production in the South. This means control of diseases and parasites, and above all, better yields from hay and pasture crops. Do southern research workers have the necessary answers to those problems? One of the greatest challenges in research work today appears to be the development of hay and pasture grasses that will thrive on the poor lands of the South without requiring a greater expenditure of fertilizer than the resulting product is worth.

Southern farmers and agricultural workers are now faced with a more or

¹ Steanson, Oscar, and Langsford, E. L. Food, Feed, and Southern Farms—*A Study of Production in Relation to Farm Needs in the South*. Bureau of Agricultural Economics. November 1939. (Mimeographed.)

LAND RESOURCES PER CAPITA, SELECTED AREAS IN THE SOUTH AND CORN BELT



less permanent situation in which cotton still returns the largest income per acre and per hour of labor, but only for a part of the land and labor resources formerly devoted to cotton production. Other uses must be found for the remainder of the land and labor if incomes to farm families are to be maintained.

LESS cotton and more of other enterprises, especially food and feed, will result in better living for many cotton farmers. Moreover, a shift away from cotton and corn is needed in the interest of soil conservation and permanent farming. But the shift requires money for fencing, pasture improvement, and for new equipment.

Farmers must learn the new ways of farming, and new landlord-tenant relations must be developed. The change will not be made overnight—cannot be made at all in some places without outside assistance. Livestock producers in other regions have little to fear from southern competition because farm needs and a growing urban population in the South can easily absorb all the increased production.

In areas where land resources per capita are too meager, avenues of escape into nonfarm employment must be provided. This involves education and, especially, vocational training for other occupations.

SHERMAN E. JOHNSON.

The West

WHEAT growers in the Plains States, if they take advantage of opportunities for shifting production from wheat to products needed by the domestic market, can improve their

farming systems and also make a contribution to the defense program. Unless export wheat markets are reopened, some adjustments to the production of feed crops and livestock seem necessary.

Adjustments to war conditions and the defense program are conditioned

by recent adjustments to the most widespread and most protracted drought on record and by the possibility that in some measure drought will continue. The drought was particularly severe and adjustments particularly drastic in the western portions of the Plains. Prevailing opinion now considers that permanent shifts of large acreages from crops to permanent grass cover are necessary in the interest of soil conservation and agricultural stability.

Partly as the result of the drought and partly as a result of developments in farm practice, there has been a general movement of population from the region. The most drastic movement has been in the western part of the dry farming areas where the migration from farms has opened the way for the development of more extensive types of farm organization better suited to production possibilities. Fortunately, the types of adjustment which should be encouraged in the light of the war conditions and our national defense program coincide with those that should be made in the interest of conservation and stability of income.

A CONTINUED high wheat acreage in the Plains States despite declining export markets points to the need for rather drastic adjustments in that region. A series of drought years that were less unfavorable to wheat than to corn and hay has encouraged wheat seedings in the eastern Plains despite low wheat prices.

During the 8 years preceding 1940, wheat acreage moved eastward—a distinct reversal of the trend during the preceding 10 years. Actually the seeded acreage of wheat was maintained at or above the 1928-32 level in the western parts of the Plains, except during the driest years; but at the same time it increased rapidly in the eastern portions.

In all parts of the region the acreage of corn declined and in the eastern portions the replacement of corn with

wheat was most striking. The acreage of corn in North and South Dakota, Nebraska, and Kansas declined about 10 million acres, or 48 percent, from 1932 to 1940.

The full significance of this eastward movement of wheat acreage is obscured by State figures because much of the shift took place within State boundaries. In one group of 7 counties in northeast Kansas, farmers in 1938, before the acreage allotments of the Agricultural Conservation Program became effective, seeded about three times the 190,000 acres of wheat they had seeded in 1928-32 and only 60 percent of the 700,000 acres of corn reported in 1928-32. Adjustments in 1939 reduced wheat seedings so that they were only double the predrought acreage, but the acreage of corn was still only three-fourths of that level.

THE acreage seeded in the Great Plains in 1937 and 1938 exceeded by 8 million acres the average of 1927-36. Adjustment downward in 1939 and 1940 brought the acreage seeded to 2 million below the 1927-36 average and to about 10 million acres below 1938 seedings, but in both 1939 and 1940 production of hard red winter and spring wheats was considerably in excess of domestic needs. A rather low yield of 10 bushels per seeded acre on 42,000,000 acres would produce the amount of wheat of these types estimated for use in 1940. This would allow a further reduction of 2 million acres from the acreage seeded in 1940.

If wheat acreage is to be held down to the level of 1939 and 1940, some other use must be found for about 10 million acres of land in the Great Plains. If further reduction is necessitated by disappearance of the export market, the problem becomes even greater. For most of this land, feed crops and livestock production represent the only alternative use.

LIVESTOCK numbers in the Great Plains States are at a particularly low level although some increases in

numbers have been made in the past few years.

How much then will the diversion of, say, 12 million acres of wheat in the Plains areas influence total production of livestock? Adjustments to feed crops are contingent on weather and on limitations imposed by the agricultural programs. With favorable seasons the acreage of corn could be expected to increase, if not to the 1928-32 average, at least to the point where pork production could again reach the predrought level. A part of the needed grain could be supplied by higher corn yields on the present acreage, weather permitting.

An increase of corn acreage to, say, 82 percent of the 1928-32 average would supply grain to increase pork production to its 1928-32 level. Such an increase would represent a volume about 5 to 6 percent of the total United States pork production of 1939. A shift from cash grain to corn-hog enterprises would probably benefit the area, but from the standpoint of national needs, it would be better if the expansion were in beef cattle and sheep rather than in hogs.

AN increase in meat and wool would not be startling if 6 million acres were returned to grass for beef cattle and sheep production in areas where crop production is uncertain and population has been decreasing. Beef cattle numbers in 1940 in the 4 Plains States were only slightly below the numbers reported during the period 1928-32 but were 2,800,000 below the number reported in 1934. Even a shift of 6 million acres to grass would, at 15 acres per head, supply feed for only 400,000 more cattle. Probably a resumption of feed-crop production at the 1928-32 level would provide for the beef produced during that period and the shifting of land from wheat plus more favorable seasons would increase numbers from the 9.1 million reported in 1940 to about 9.6 million and would increase United States beef production by only 2.5 percent.

Numbers of sheep have been increasing and with an increase of feed supply, some further increases could be made if sheep rather than cattle production seemed desirable.

ALTERNATIVES to wheat in the Pacific Northwest wheat areas may be even less attractive than in the Great Plains, but in general, an increase in feed crops and livestock can be made on some farms and in particular locations. Exports of wheat from this region have been supported in recent years by export subsidies, and the weakening of the export market will be felt keenly by producers. Little further adjustment in acreage could be expected on the better wheat lands although the use of wheat as livestock feed might provide an outlet more favorable than the cash market. On thin and unproductive lands a shift from wheat to grass or feed crops for livestock may well be encouraged.

DRASTIC adjustments are not made easily by farmers. New investments are involved, and in areas where financial reserves are depleted, this means outside assistance of some kind. Federal, State, and local agencies can assist in the acquiring of more grassland by those farmers remaining in the Western Plains areas who still have inadequate acreage.

Desirable shifts in land use could be speeded and made permanent in a number of ways. The reestablishment of grass, encouraged by a program to restore abandoned cropland to permanent cover, would be stimulated through the development of a farming-grazing system in areas where migration has left room for an enlarged acreage on remaining farms. This might involve organized local control of land held by disinterested absentee owners and in some places the organization of tax-delinquent land held by State or county into operating farm units. In particular instances public acquisition of land to restore its pro-

ductivity and to insure conservative use of land may be desirable.

The development of water resources either to insure a supply of feed or to make water available for livestock; the financing of breeding herds on farms where feed is available and livestock numbers are low; and some method of insurance for feed crops, or provision for storing and holding feed for use in dry years—all should help to stabilize farming in the dry areas.

IN the range livestock areas, the adjustment problem is primarily one of balancing livestock numbers with the long-term carrying capacity of the range and with the locally-grown winter forage. With relatively high returns from cattle and sheep at the present time, there is real danger that range areas may once again drift into overexpansion of the type that occurred during the World War period.

During the years 1915 to 1919 with high prices, increasing demand, the urge for increased production, and a liberal loan policy, the number of cattle, and to some extent the number of sheep on range lands in the 11 Western States, were greatly increased. Expansion in excess of the feed supply not only injured the range in some localities but defeated its own purpose, for with a growing scarcity of feed, losses were heavy and calf crops and gains were less than had been expected. Every effort should be made to avoid a repetition of these mistakes.

Research workers on range problems have developed much evidence to indicate that moderate stocking will bring a larger immediate output from the range than will overgrazing. These lessons need to be brought more effectively to the attention of ranchers.

THE number of cattle in the 11 Western States on January 1, 1940, was slightly below the number in 1915. But the number of sheep is larger, and more land has been placed in cultivation. Whereas 25,838,000

stock sheep and lambs were reported in the Western States including Texas and South Dakota in 1915, about 34,000,000 head were reported in 1940.

The present relation between livestock numbers and condition of the range is quite good in some areas. In general the operators of large ranches on private lands were able during the past dry periods to control numbers of animals and prevent deterioration of the range. On the other hand, the outfits most heavily overstocked were the small ones depending in part on feed supplies cut off by crop failures, especially in the Plains. For these small ranches, recovery of the range will take place slowly. Inasmuch as the range is already stocked to near capacity particularly in the Southwest, and in some places above capacity, adjustments should depend upon the vigor, stand and composition of grass, the development of supplementary feed-producing areas, and a closer coordination between range and crop production.

Newly developed irrigated areas may contribute substantially to the stabilization of livestock production in the region. In most areas the possibilities for increased livestock numbers rest upon this production of additional feed, and in general no increase in numbers on the range should be anticipated except on understocked areas of the Northern Plains.

INCREASED production of livestock on the range lands based on increased numbers of livestock cannot be brought about quickly. Too often the holding over of heifers and ewes, in an effort to increase production when prices are favorable, results in an increased production coinciding with drops in prices several years later. The longer the period required for a rancher to increase livestock numbers and to get additional animals ready for market, the greater the possibility that he will be forced to sell on a declining market after the defense needs are passed. Equally important

is the danger that an expansion, with no adequate provision for additional current feed or for feed reserves to tide over drought or unfavorable weather, will actually fail to result in additional production.

The need for having products available for market in the shortest possible time and the need for avoiding the hazard of a feed shortage make it safer, and probably more desirable, to obtain increases by getting greater production per animal than by attempting the much more dubious and difficult program of increasing numbers.

A practicable course of action would be to guide needed expansion of production effort through: (1) A reasonable restocking of ranges in the Northern Plains area; and (2) the encouragement of individual practices that will increase calf and lamb crops, decrease losses, aid the development of animals, and improve sale values, all of which will tend to make for more economic production.

RUSSELL S. KIFER.

The Corn Belt

THE principal agricultural problems in the Corn Belt continue to be those on which we have been working for the past several years—the conservation of the soil and the readjustment of production to effective demand. The limits on demand, although moderately raised by prospective increases in consumer purchasing power, will not yet permit uncontrolled production in the Corn Belt.

Considerable progress has been made in adjusting the acreages of the soil-depleting feed grains of which there is surplus production. The acreage of corn in 1940 in the 5 principal Corn Belt States was 22 percent below the 1928–32 average acreage. And the 1940 acreage of oats and barley was about 25 percent below the 1928–32 average acreage. But the acreage of soybeans, a soil-depleting crop and a concentrated feed, has been increasing. About half of the 7.9 million acres reduction in corn and of the 4.4 million acres reduction in oats and barley has been offset by an increase in the acreage of soybeans. The other half of the reduction in grain acreage has been shifted into sod-forming hay and pasture crops.

INCREASED yields of feed crops, however, have more than offset the recent decreases in acreages. The average yield of corn during the last 4 years in each of the 5 Corn Belt States except Missouri has been 20 to 30 percent above the 1922–31 average. Fifteen years ago clover and clover and timothy made up 80 percent of the hay acreage. In the last 2 years they made up less than 50 percent of the total. Higher yielding alfalfa has increased from 6 percent to 17 percent of the total in this period.

Production of all feed crops combined during 1938–40 averaged 10 percent above production in 1928–32. Feed grains, including soybeans harvested for beans, were 5 percent larger. Hay production was 31 percent larger, and pasture units were about 14 percent larger.

Although the corn acreage in 1940 in the 5 principal Corn Belt States was the smallest in 40 years, the most pressing problem in the Corn Belt is the profitable disposal of accumulated stocks of corn and the direction of future production.

THE hog-corn price ratio, favorable after 1937, shifted to an unfavorable one in the fall of 1939. Farmers in the Corn Belt reduced their 1940

pig crop 10 percent below the 1939 crop. The price has been seasonally low this winter, and the corn-hog ratio probably will continue unfavorable through the breeding season for the 1941 spring pig crop. Since farmers traditionally base breeding operations on price relationships at breeding time, they probably will reduce the pig crop in the spring of 1941.

If the prospective strengthening of consumer purchasing power materializes, hog prices will be considerably above present levels next fall. The hog-corn ratio probably will be so favorable to hog production then as to encourage a sharp expansion in production in 1942. As a result, hog prices and incomes to hog producers starting late in 1942 may be depressed despite prospective further increases in consumer demand.

IT is likely that the situation of hog producers in the Corn Belt would be better during the next few years if the pig crop in 1941 were somewhat larger instead of smaller than the 1940 crop. Prices would be somewhat lower than if production is further decreased, but the lower prices would be largely offset by increased marketings. Lower prices and a lower corn-hog ratio than would otherwise prevail during the latter part of 1941 would tend to hold down the sharp increase in hog production in 1942 that now seems probable.

Since hogs consume 40 to 50 percent of the corn produced in the Corn Belt, it seems clear that, even with prospective increases in the demand for livestock and livestock products, farmers cannot plan any sustained increase in the acreage of corn during the next few years. An acreage in the commercial area materially greater than the 1940 allotment of about 36.6 million acres would either further expand the ever-normal granary or increase hog production suddenly in 1942, bringing farmers smaller incomes from hog marketings in the next few years than they would receive with a more gradual increase in production.

CORN Belt farmers are progressively accumulating larger acreages of hay and pasture crops as a part of a soil conservation program. Many have an internal farm-adjustment problem of providing a better utilization of this forage. Some, particularly in the cash-grain areas, will find it most economic to use a part of their forage acreage as a green-manure crop. But many Corn Belt farmers are planning, and perhaps rightly so, to utilize this additional forage by increasing numbers of roughage-consuming animals—beef cattle, dairy cattle, and sheep.

Prospective relationships between the prices of meat animals and the prices of dairy products suggest that Corn Belt farmers who have dual-purpose herds will have little incentive in the next few years to increase substantially the production of dairy products. Prospective increases in the wages of farm labor will also discourage dairying on such farms.

There are many small farms, however, in the border areas and interspersed throughout the Corn Belt on which the operators recognize the need for a more intensive livestock enterprise as a step in long-time farm planning. Dairying should be gradually expanded on these farms.

There are, of course, many well established dairy farms in the Corn Belt, and on these it may be profitable to expand dairying moderately as the market for dairy products strengthens. Some expansion in dairying on these farms will facilitate a reduction in hog numbers when this seems desirable.

CONTINUED high prices for beef cattle will be favorable to cattle raising and feeding during the next few years. At the present rate of expansion of cattle numbers, however, the 1934 peak will be equalled in 2 or 3 years. When farmers and ranchers discontinue holding back stock for breeding purposes, the annual slaughter of cattle and calves may exceed 28

million head—much above any previous record. Unless consumer purchasing power exceeds that at any time in the past, cattle prices undoubtedly will turn downward when slaughter supplies reach the peak.

Corn Belt farmers, therefore, should be cautious about making large outlays for breeding stock at currently high prices, although they may find it profitable to maintain larger breeding herds and possibly larger feeding operations than formerly to utilize continued large supplies of roughage grown as a part of a soil conservation program. Consideration should be given to the economy of using relatively more roughage and less grain in cattle-feeding operations.

Corn Belt farmers should plan to supply their share of the prospective expansion in the market for animal products largely with beef and dairy products, and to some extent with mutton, during the next few years. Insofar as this can be done it would greatly facilitate stabilizing Corn Belt systems of farming. The increase in production of beef and dairy products in the Corn Belt probably would be

equivalent to 4 or 5 percent of the present total national production.

INCREASED consumer buying power may increase consumption of fats and oils including soybean oil. And there may be greater use of soybean oil for nonfood purposes during the next few years. Increased utilization of soybean meal for feed has been keeping pace with production without depressing prices and may be expected to do so as long as corn prices are kept at present levels and prices of livestock and livestock prices do not decline. Current acreages of soybeans probably can be maintained without materially depressing soybean prices.

Although the current returns from an acre of soybeans may be relatively high compared with small grains or other hay crops, the soil-depleting and soil-erosive effects of growing soybeans should be carefully considered by Corn Belt farmers. Other hays should be substituted for soybean hay except when it is grown as an emergency hay crop.

C. W. CRICKMAN.

The Northern Dairy Region

THE impact of the war and defense program on the agriculture of the Northern Dairy Region is generally favorable because of the increased domestic demand for the major products of the region.

Most important to dairymen in the Lake States is the expected increase in demand for butter, cheese, and concentrated milk, through the general increase in consumer purchasing power and, in the case of concentrated milk, through some increase in exports. Relaxation of sanitary trade barriers for milk and cream in eastern milk

markets would open up some additional demand, particularly for cream. The extent of this would depend on the elasticity of consumers' response to lower cream prices in the eastern cities. Anticipated expansion of dairying in other regions may result in some additional demand for dairy cows, and some dairymen in the Lake States may find it profitable to produce more young dairy cows instead of increasing milk production.

EVEN though other regions may participate in this favorable situation, it appears that dairymen in the Lake States can undertake a moderate expansion. As grain prices are expected to remain low relative to milk, it will probably pay many

farmers to feed additional grain per cow in addition to providing adequate supplies of improved roughage. To meet competition from other areas it is important that production efficiency be increased as much as possible, especially in the direction of farm-produced forage and pasture.

In the past decade feed production in the Lake States as in the Corn Belt has increased both in quantity and quality, except during the drought years. There has been a marked upward trend in alfalfa acreage. These shifts, which have been given further stimulus by the agricultural conservation programs, need to be accelerated in order to provide a broad base of farm-produced feed.

DURING the 1920's when industrial activity was high, commercial farmers in the Northeast enjoyed relatively higher incomes than farmers in other areas. This was the result of farm production for nearby metropolitan markets where consumers' purchasing power was well maintained. Industrial expansion from the defense program will probably again bring about greater rural prosperity in this region.

Technological and institutional trends that have been taking place in the Northeast during the last 20 years have induced a trend toward specialization. Market supplies are coming more and more, not from general farms, but from dairy farms, fruit farms, poultry farms, and potato farms. We have seen the rise of large-scale bargaining, marketing, and processing organizations, and the development of various means of influencing prices and production. Perhaps the most important of these institutional developments have occurred in the handling of dairy products, particularly in connection with fluid-milk markets. Farmers' cooperatives have developed in marketing and in the purchasing of feeds and farm supplies.

IT is undoubtedly uneconomic from the national point of view to produce increased quantities of butter, cheese, and evaporated milk in the Northeast with concentrate feeds shipped from distant producing areas. Limited production may be economical as a by product of fluid-milk production, but beyond this point the production of the relatively concentrated dairy products near the areas of feed production is a more economical use of resources.

Yet any rise in composite farm prices because of increases in Class I milk prices will be likely to cause an undue expansion because the additional production will be at least temporarily profitable for the individual dairyman. As a longer time matter the choice on many northeastern dairy farms lies between somewhat smaller production of milk based on greater self-sufficiency in feed supplies, or greater milk production based on the feeding of large quantities of grains shipped from other areas.

TO prevent undue maladjustment from the impact of the defense program, dairymen in the Northeast need to consider possible alternative lines of group or public action. There are at least three possible alternatives:

(1) Prices for Class I milk might be kept from rising too much by public authority, allowing dairymen to benefit from the improved demand mainly to the extent that composite prices were raised by the increase in volume of fluid consumption and by the increases in prices of manufactured dairy products.

(2) Class I prices might be allowed to rise more, but production held in check by effective production control.

(3) Existing trade barriers might be modified so as to permit inspected milk and sweet cream, particularly the latter, to enter more freely from outside present milk sheds. For example, provision might be made for

uniform sanitary inspection and regulations under Federal supervision. The resulting more nearly competitive situation would prevent additional high-cost production from rising too far.

WITH the increasing specialization and commercialization of agriculture, areas of low-income farming in the Northeast have widened and have been placed at an increasing disadvantage. Part of this may be attributed to the competition with increasing efficiency of commercial farming related to technological improvements, especially modern transportation. Part is due to the failure of urban industry to furnish increased opportunities at a sufficiently rapid rate to take care of the growing backlog of rural people. At any rate, we find that eddies of relatively non-commercial "low pressure" farming have survived on the poorer hill lands

of the Northeast. Perhaps increased activity in industry will draw labor from these areas, but the problem may not disappear, and other adjustments may be needed.

Can a "low pressure" grass land agriculture be developed in some of these areas that will emphasize summer milk production? Will sheep find a significant supplementary place? To what extent can low-farm incomes be supplemented by work in the woods or in nearby industries? Actual examples of various adjustments of this nature have been successfully carried through in recent years. In many instances definite improvement in low-farm incomes has resulted from improved farm practices made possible with the assistance of payments from the agricultural conservation program and guidance by the Farm Security Administration.

RONALD L. MIGHELL.

United States: Exports and Imports of Specified Agricultural Commodities,
September–November and November 1939 and 1940 ¹

Commodities	Unit	September–November		November	
		1939	1940	1939	1940
Exports:					
Pork—					
Cured pork ²	Lb.	10,576	3,348	3,039	1,100
Other pork ³	Lb.	12,489	7,711	4,263	2,227
Total pork	Lb.	23,065	11,059	7,302	3,327
Lard, including neutral	Lb.	69,491	30,383	25,706	10,228
Wheat, including flour	Bu.	14,477	11,536	4,173	4,069
Apples, fresh ⁴	Bu.	1,715	328	701	107
Pears, fresh	Lb.	52,222	9,004	13,779	2,808
Tobacco, leaf	Lb.	98,440	25,133	27,589	10,334
Cotton, excluding linters (500 lb.)	Bale	2,236	457	611	153
Imports:					
Cattle	No.	143	153	62	59
Beef, canned, including corned	Lb.	25,919	10,493	4,439	3,072
Hides and skins ⁵	Lb.	76,595	95,924	31,305	38,362
Barley malt	Lb.	19,766	8,978	5,488	2,691
Sugar, cane (2,000 lb.)	Ton.	719	599	94	208
Flaxseed	Bu.	2,008	1,821	682	1,093
Tobacco, leaf	Lb.	16,215	15,899	5,579	4,543
Wool, excl. free in bond for use in carpets, etc.	Lb.	33,807	64,035	11,948	22,816

¹ Corrected to December 28, 1940.

² Includes bacon, hams, shoulders, and sides.

³ Includes fresh, pickled or salted, and canned pork.

⁴ Includes baskets, boxes, and barrels in terms of bushels.

⁵ Excludes the weight of "other hides and skins" which are reported in pieces only.

NOTE.—Office of Foreign Agricultural Relations. Compiled from official records, Bureau of Foreign and Domestic Commerce.

Milk Thousands of families who need and want more milk than they can buy with limited incomes are the dairy industry's greatest opportunity for a wider market. Although the dairy industry itself can do nothing directly to increase family incomes, it could accomplish somewhat the same result if all milk were produced, processed, and distributed with greater efficiency and the savings thus effected were passed on to thousands of potential consumers in the form of lower milk prices.

* * *

Efforts to devise new food uses for dairy byproducts resulted, during the past year, in the development of a process for making sirup from the sugar in skim milk. This sirup is clear, has a sweet pleasing taste, will keep well, and is suitable for use on the table or in the manufacture of various sweet goods.

* * *

Efforts to develop industrial outlets for the constituents of dairy byproducts resulted in an entirely new plastic material from lactic acid, which promises to have extensive commercial application in waterproofing and gasproofing fabrics. Also made from lactic acid was a new resin which makes a clear colorless lacquer that dries rapidly and adheres well to glass and metal.

O. E. REED, *Chief,*
Bureau of Dairy Industry.

Cheese People are eating more cheese. Total consumption increased 36 percent during the past decade—from 567,592,000 pounds in 1930 to 770,003,000 pounds in 1939. Most of the increase was in consumption of American or cheddar cheese—from 67.5 percent of the total in 1930 to 72.5 percent of the total in 1939. The development of process cheese has no doubt been a factor stimulating consumption of American cheese.

Swiss cheese ranks second in importance in volume of consumption, but is far below American since it comprises only 7 to 8 percent of the total. Consumption of Swiss cheese increased 27 percent during the decade—from 44,271,000 pounds in 1930 to 56,384,000 pounds in 1939—but this was considerably less than the increase for all cheese. Large quantities of Swiss-type cheese are now made in the United States.

* * *

Cream cheese ranks third in volume of consumption, making up about 6 percent of the total. Consumption of cream and Neufchatel increased from 33,213,000 pounds in 1930 to 48,295,000 pounds in 1939. Improvement in the quality of cream cheese in the past decade and the developments in merchandising the product have stimulated its use.

* * *

Italian varieties of cheese rank fourth, the consumption increasing from 32,660,000 pounds in 1930 to 41,336,000 pounds in 1939; Brick and Munster fifth, the 34,729,000 pounds consumed in 1939 comparing with 34,000,000 pounds in 1930; Limburger sixth, the 8,803,000 pounds consumed in 1939 comparing with 8,817,000 pounds in 1930. Consumption of all other varieties of cheese has totaled about 22,000,000 pounds in recent years.

* * *

United States imports of cheese have been greatly reduced because of the war, and further reductions are in prospect. During the 4 months July-October of 1940, imports were 68 percent less than in the same period of 1939. Imports of Swiss cheese were down 85 percent and Italian varieties 62 percent. * * * Domestic production of types of cheese commonly imported will probably be expanded further.

E. E. VIAL.

Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39=100) ¹	Income of industrial workers (1924-29=100) ²	Cost of living (1924-29=100) ³	(1910-14=100)					Farm wages	Taxes ⁴
				Wholesale prices of all commodities ⁵	Prices paid by farmers for commodities used in —					
					Living	Production	Living and production			
1925	91	98	101	151	164	147	157	176	270	
1926	96	102	102	146	162	146	155	179	271	
1927	95	100	100	139	159	145	153	179	277	
1928	99	100	99	141	160	148	155	179	279	
1929	110	107	99	139	158	147	153	180	281	
1930	91	88	96	126	148	140	145	167	277	
1931	75	67	88	107	126	122	124	130	253	
1932	58	46	79	95	108	107	107	96	219	
1933	69	48	75	96	109	108	109	85	187	
1934	75	61	77	109	122	125	123	95	178	
1935	87	69	79	117	124	126	125	103	180	
1936	103	80	80	118	122	126	124	111	182	
1937	113	94	83	126	128	135	130	126	187	
1938	88	73	81	115	122	124	122	124	198	
1939	108	83	80	113	120	122	121	124	190	
1939—December	126	93	80	116	121	124	122			
1940—January	122	93	80	116			122	119		
February	116	89	81	115			122			
March	113	87	81	114	121	125	123			
April	111	86	81	115			123	124		
May	114	87	81	114			123			
June	121	89	81	113	121	125	123			
July	121	91	81	113			122	129		
August	121	95	81	113			122			
September	125	98	81	114	121	123	122			
October	129	100	81	115			122	129		
November	132	102	81	116			122			
December ⁷				117			122			

Year and month	Index of prices received by farmers (August 1909–July 1914=100)								Ratio of prices received to prices paid
	Grains	Cotton and cottonseed	Fruits	Truck crops	Meat animals	Dairy products	Chickens and eggs	All groups	
1925	157	177	172	153	140	153	163	156	99
1926	131	122	138	143	147	152	159	145	94
1927	128	128	144	121	140	155	144	139	91
1928	130	152	176	159	151	158	153	149	96
1929	120	144	141	149	156	157	162	146	95
1930	100	102	162	140	133	137	129	126	87
1931	63	63	98	117	92	108	100	87	70
1932	44	47	82	102	63	83	82	65	61
1933	62	64	74	105	60	82	75	70	64
1934	93	99	100	103	68	95	89	90	73
1935	103	101	91	125	118	108	117	108	86
1936	108	100	100	111	121	119	115	114	92
1937	126	95	122	123	132	124	111	121	93
1938	74	70	73	101	114	109	108	95	78
1939	72	73	77	105	110	104	94	93	77
1939—December	87	82	65	96	101	118	97	96	79
1940—January	90	85	66	117	103	119	91	99	81
February	91	85	76	168	101	118	98	101	83
March	92	85	73	128	102	114	83	97	79
April	96	85	81	145	104	110	82	98	80
May	92	83	88	133	108	106	84	98	80
June	83	81	104	134	102	104	81	95	77
July	78	80	89	98	110	105	88	95	78
August	76	77	79	112	110	109	90	96	79
September	77	76	73	118	114	111	104	97	80
October	80	78	79	99	112	116	112	99	81
November	83	79	71	93	112	121	120	99	81
December	81	79	75	88	111	128	122	101	83

¹ Federal Reserve Board, adjusted for seasonal variation. Revised August 1940.

² Adjusted for seasonal variation.

³ Monthly indexes for months not reported by the Bureau of Labor Statistics are interpolated by use of the National Industrial Conference Board cost-of-living reports. Revised.

⁴ Bureau of Labor Statistics index with 1926=100, divided by its 1910-14 average of 68.5.

⁵ These indexes are based on retail prices paid by farmers for commodities used in living and production reported quarterly for March, June, September, and December. The indexes for other months are interpolations between the successive quarterly indexes.

⁶ Index of farm real estate taxes per acre. Base period represents taxes levied in the calendar years 1900-13, payable mostly within the period Aug. 1, 1909–July 31, 1914. ⁷ Preliminary.

NOTE.—The index numbers of industrial production and of industrial workers' income shown above are not comparable in several respects. The base periods are different. The production index includes only mining and manufacturing; the income index also includes transportation. The production index is based on volume only, whereas the income index is affected by wage rates as well as by time worked. There is usually a time lag between changes in volume of production and in workers' income, since output can be increased or decreased to some extent without much change in the number of workers.